SEQUENCE LISTING



<110> Vasta, Gerardo R.

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<120> Assay for Perkinsus in Shellfish

<130> 4115-137 CIP

<140> US 09/771,935

<141> 2001-01-30

<150> US 08/900,117

<151> 1997-07-25

<150> US 60/023,345

<151> 1996-07-26

<160> 19

<170> PatentIn version 3.1

<210> 1

<211> 1150

<212> DNA

<213> Perkinsus marinus

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attgtgggtg	gctgattctt	gcgaaaggac	tgttgtgatg	tccgagttcc	caaattggga	660
gtttttggac	atcactcctg	atctgccggc	ggcgatcagg	atgactgaca	tttcgatata	720
ttttgggtat	tcgatagctg	ccaaatcggt	cagcgtcgag	tattccggtt	tattcgaagg	780
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tgtgggaaag	tcgggtggat	ttatcttacc	cgcaaatcta	atacaagatt	tgcatgatgc	900
agcaatagac	caaggttagt	atagcagttg	tatttatacg	actagttatg	caaacccttt	960
gtgttttttg	ttgcgactct	tggcgtgaac	cggaagaccg	gacctcgctt	tcgactattc	1020
atctttgatg	gatatgagat	cgcaagggta	tcgcttcgtg	cgatatttag	tgaccatcag	1080
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tgatgcaatc						1150

<210> 2

<211> 1550

<212> DNA

<213> Perkinsus sp.

<220>

<221> gene

<222> (1)..(1550)

<223> The nucleotide sequence of the NTS of rRNA of P. andrewsi, isolat ed form Macoma balthica.

<400> 2 ttttcatttt	tgctttcaca	accccgcacc	ccatgtacaa	tgttgccaac	cactagagtt	60
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cacaaattct	caaattggac	aacattggac	aaaaattcac	aacatacatt	ggacaacagt	180
ggacaacgaa	cccaaacccg	acaacattgt	ccagggggat	agggggtgaa	aaagcagtgc	240
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gcaattttgc	caatgtgcaa	ttttgcaaat	gtgcaatttt	gcaaatgtgc	aattttgcca	360
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aaaaaagcac	ccccgaaggt	aaaattccct	ttaagtccct	tgcgcatttg	caaaattttc	660
aaaaattgtt	gcaaatgcgc	ttttgttatt	tggccggttc	attggtgtca	aaagttgcct	720
ggggtggtta	cacaatgcac	ggaattggtt	ggaagttgtg	tgattgaaaa	ttggtcgtgt	780
cacacaattt	tgcgcatttg	caaaaattcg	caaattggac	aaaaaagggt	cgcgcacagt	840
caaattgcgc	aaatttcact	ttgaagtgag	tgcgcatttg	tggggcagaa	atgtggtgac	900
agcatcgttt	tttataataa	atattctata	tttagtatct	ttattataat	ttgctgtcac	960
caatcaccat	tttagaattt	ttatttttt	atgttttagt	gaccgcggga	ttttttgcaa	1020
agtactattg	tgatgtttga	gttgtttgaa	atgggcaatt	tagaacatca	tcagaaatcg	1080
ctgaatagtg	atttttgagt	ttgactgttt	gaagtgtttt	gggtattcgg	cagctgccaa	1140
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ggaatcatgg	ggttttgtat	tagtacccgc	tcattgtggg	aatgtcgggt	ggttcaatat	1260
cacctgcaaa	tttaatacag	gatttgcatg	atgcagcgac	tgaccggggt	tggtataata	1320
gctgattatt	cggcttatta	tgcagaccta	tcgtgttagt	agttgcgact	cttggcgtga	1380

accggaagac cggaacttga attcgactat ttacgtccgt aaacaggaga tttcaagaat 1440 attgcacatt ttgcgtgata taaacgtgat catctgagca cgcttcgact cttggatatc 1500 tgctaatcag ccgtcatctg agagctcgca agcattgcaa ttgatgcaat 1550

<210> 3

<211> 1413

<212> DNA

<213> Perkinsus sp.

<220>

<221> gene

<222> (1)..(1413)

<223> The nucleotide sequence of the NTS of rRNA of Perkinsus mackini, isolated from Mercenaria mercenaria.

<400> cgtgcccttt tcacgaattc acagccccgc accccatgta caatgttgcc cacccgaaat 60 gcctgcctgc ccacccgaaa tgcccgaaat gcccgttaga aaaagtatgc gaaaagttct 120 tgtcaatttt gacagtgtgt gaaaaaactg aaaaagtcca ctcaacattg cattatgcaa 180 tttgccactc aacattgtcc agggggatag ggggtgaaaa agtatcgcag tccaactgaa 240 aagatgctaa gttgaaatgc ggcgcaaatt catcacttga gttgcgaaaa tccctaaagt 300 cgaatttggc actcggtgac atgatcggga atttccctgg ttacagtggt caaatcccag 360 caattttggc aaagtttttg agtttcgcac ttttcgcaaa tttcgtgtct gaaaaaaaaa 420 tttcaacttt gcgcaaaggg gtcaaaggga aaaaaagcac cctcaaaagg aaatttccct 480 ttaatcccct ttgaaaaaaa tgcgcaaagt taaatttgcg aaaatttcga ttttctcata 540 tgaccgatta gttggtgcca gatggtagtc gggatggtta cacggtgcac ggaactcgtt 600 ggaagttctg gagttacgaa ttggtcccgt caccacaatt tgcgcatttt tgaaattgcg 660 caaatttgcg aaaaaagcag cgcgcaaagt taaattgtgc gaaaattgac tttcaggtcg 720 gtgcgcaaat ttggggtgaa aaagtggtga cagcatcaga attataataa ataatctata 780 atctagttct tttattataa ttagctgtca ccaatcacca tttgagattt tttattttt 840

tatgttttag	tgaccgcggt	atttttcca	gagtactatc	gtgatgtctg	agttgtctaa	900
aacggcaatt	tcagaacatt	accagaaaac	actgaatagt	ggtttctgag	tctgactgtt	960
tgaagtgttt	tgggtattcg	gcagctgcca	attcggtcag	ggttgaatat	actaacattt	1020
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ctcattgtgg	gaaagtcggg	tggttcaata	tcacctgcaa	atttaataca	ggatttgcat	1140
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tttacgtccg	taacacgtcc	gtaaacagga	gatttcaaga	atattgcaca	ttttgtgtga	1320
tataatcgtg	atcatctgag	cacgettega	ctcttgaata	tttgttaaac	aaccgatatt	1380
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<210> 4

<211> 21

<212> DNA

<213> Perkinsus marinus

<220>

<221> misc_feature

<222> (1)..(21)

<223> Forward primer (5'-3').

<400> 4 cacttgtatt gtgaagcacc c

21

<210> 5

<211> 21

<212> DNA

<213> Perkinsus marinus

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<220>
<221> misc_feature
<222> (1)..(21)
<223> Reverse primer (5'-3').
<400> 5
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<210> 6
<211> 20
<212> DNA
<213> Perkinsus marinus
<220>
<221> misc_feature
<222> (1)..(20)
<223> Forward primer (5'-3').
 <400> 6
 atgctagccc atagaacagt
 <210> 7
 <211> 20
 <212> DNA
 <213> Perkinsus marinus
 <220>
 <221> misc_feature
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<222> (1)..(20)

<223> Reverse primer (5'-3').

21 20

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<400> 7
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atgctagccc acatcacagc
<210> 8
<211> 22
<212> DNA
<213> Perkinsus atlanticus
<220>
<221> misc_feature
<222> (1)..(22)
<223> Forward primer (5'-3')
<400> 8
                                                                    22
atgctatggt tggttgcgga cc
<210> 9
<211> 20
<212> DNA
<213> Perkinsus atlanticus
<220>
<221> misc_feature
<222> (1)..(20)
<223> Reverse primer (5'-3')
<400> 9
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gtagcaagcc gtagaacagc
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<210> 10

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<211> 24
<212> DNA
<213> Perkinsus sp.
<220>
<221> misc_feature
<222> (1)..(24)
<223> NTS7 forward primer (5'-3') for Perkinsus andrewsi
<400> 10
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<210> 11
<211> 20
<212> DNA
<213> Perkinsus sp.
<220>
<221> misc_feature
<222> (1)..(20)
<223> NTS6 reverse primer for Perkinsus andrewsi
<400> 11
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<210> 12
<211> 19
<212> DNA
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<213> Perkinsus sp.

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<220>
<221> misc_feature
<222> (1)..(19)
<223> Generic forward primer (5'-3') PER1 for P. marinus, P. atlanticus
       and P. andrewsi.
<400> 12
                                                                     19
tagtacccgc tcattgtgg
<210> 13
<211> 17
<212> DNA
<213> Perkinsus sp.
<220>
<221> misc feature
<222> (1)..(17)
<223> Generic reverse PER2 primer (5'-3') for P. marinus, P. atlanticus
        and P. andrewsi
<400> 13
                                                                      17
 tgcaatgctt gcgagct
 <210> 14
 <211> 22
 <212> DNA
 <213> Perkinsus sp.
 <220>
 <221> misc_feature
 <222> (1)..(22)
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<223> Forward SSU3F primer (5'-3') for P. andrewsi

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<400> 14
                                                                     22
agttggattt ctgccttggg cg
<210> 15
<211> 22
<212> DNA
<213> Perkinsus sp.
<220>
<221> misc_feature
<222> (1)..(22)
<223> Forward SSU4F primer (5'-3') for P. andrewsi
<400> 15
                                                                     22
accaggtcca gacataggaa gg
<210> 16
<211> 712
<212> DNA
<213> Perkinsus sp.
 <220>
 <221> misc_feature
 <222> (1)..(712)
 <223> A nucleotide sequence of the ITS1-5.8. S ITS2 regions of P. andre
       wsi
 <400> 16
 acaccgattc attototgag aaaccagcgg tototgtaaa aggagatggg atotocgott
                                                                    60
 tgtttagatc cccacacctg accgctttaa cgggccgggt aggtgcataa cttctatgaa
                                                                    120
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ccaattgtac	tagtctaaag	tatccaatat	ccttttggat	tttggtattt	caaaacgaaa	180
ttccaaactc	tcaacgatgg	atgcctcggc	tcgagaatcg	atgaaggacg	cagcgaagtg	240
cgataagcac	tgcgatttgc	agaattccgt	gaaccagtag	aaatctcaac	gcatactgca	300
caaaggggat	ttatcctctt	tgtacataca	tatcagtgtc	gctcttcttc	ccgatacaaa	360
cattttgttg	atttacaatc	aacattatgc	tttgtatccc	gcttggattc	ctttattggg	420
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gactgtgttg	tggttgattc	cgtgttcctc	gatcacgcga	ttcatcgctt	caacgcatta	600
tgtcaaattt	gatgaatgca	gagagttgtt	tatgaattac	gcgatcgctt	tggtctcaga	660
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<210> 17

<211> 1808

<212> DNA

<213> Perkinsus sp.

<220>

<221> misc_feature

<222> (1)..(1808)

<223> A nucleotide sequence of the SSU rRNA of P. andrewsi

<400> 17 acctggttga tcctgccagt agtcatatgc ttgtctcaaa gattaagcca tgcatgtcta 60 120 agtataagct ttaaacggcg aaactgcgaa tggctcatta aaacagttat agtttatttg 180 gtgatcgatt actatttgga taaccgtagt aattctagag ctaatacatg cgtcaaggcc 240 cgacttcgga agggctgcgt ttattagata cagaaccaac ctagctccgc ctagtccttg 300 ttggtgattc ataataaccc ggcgaatcgc acggcttgtc cggcgatgga ccattcaagt 360 ttctgaccta tcagctatgg acggtagggt attggcctac cgtggcgttg acgggtaacg gggaattagg gttcgattcc ggagagggag cctgagaaac gactaccaca tctaaggaag 420 480 gcaacaggcg cgcaaattac ccaatcctga tacagggagg tagtgacaag aaataacaat

540 acagggcaat tctgtcttgt aattggaatg agtagatttt aaatctcttt acgagtatca attggagggc aagtctggtg ccagcagccg cggtaattcc agctccaata gcgtatatta 600 660 aagttgttgc ggttaaaaag ctcgtagttg gatttctgcc ttgggcgacc ggtccacctt 720 tcctacgggt taggttggta ccaggtttga ccttggcttt ttcttgggat tcgtgctcac 780 gcacttaact gtgcgctgac cgtgttccaa gacttttact ttgaggaaat tagagtgttt caagcaggct tatgccgtga atacattagc atggaataat aggatatgac tttggtcata 840 900 ttttgttggt ttctaggact gaagtaatga ttaataggga cagtcggggg cattcgtatt 960 taactgtcag aggtgaaatt cttggatttg ttaaagacga actactgcga aagcatttgc 1020 caaggatgtt ttcattgatc aagaacgaaa gttaggggat cgaagacgat cagataccgt 1080 cctagtctta accataaact atgccgacta gggattggga gtcgttaatt ttagacgctc 1140 tcagcacctc gtgagaaatc aaagtctttg ggttccgggg ggagtatggt cgcaaggctg 1200 aaacttaaag gaattgacgg aagggcacca ccaggagtgg agcctgcggc ttaatttgat 1260 tcaacacggg aaaactcacc aggtccagac ataggaagga ttgacagatt gatagctctt tcttgattct atgggtggtg gtgcatggcc gttcttagtt ggtggagtga tttgtctggt 1320 taattccgtt aacgaacgag accttaacct gctaaatagt tgcgtgaaat cttgtatttc 1380 1440 accgctactt cttagaggga ctttgtgtgt ttaacacaag gaagcttgag gcaataacag 1500 gtctgtgatg cccttagatg ttctgggctg cacgcgcgct acactgacac gatcaacgag 1560 tatttccttg cccggtaggg ttagggtaat cttttgaaat cgtgtcgtgc tagggataga 1620 cgattgcaat tattcgtctt caacgaggaa ttcctagtaa atgcaagtca tcagcttgcg ttgattacgt ccctgccctt tgtacacacc gcccgtcgct cctaccgatt gagtgatccg 1680 gtgagctgtc cggactgcga ttagttcagt ttctgttctt ttcgcgggaa gttctgcaaa 1740 ccttatcact tagaggaagg agaagtcgta acaaggtttc cgtaggtgaa cctgcagaag 1800 1808 gatcattc

<210> 18

<211> 1147

<212> DNA

<213> Perkinsus atlanticus

<220>

<221> misc_feature

<222> (1)..(1147)

<223> A nucleotide sequence of the NTS of rRNA of P. atlanticus

<400> 18 60 tctttttaaa tcgcactcat ggcttgtgca tgcgtgcaag cccccggagc cccctggaca atgttatece ageteaacaa egageaacag tgetatggea agtagteeac tagagageea 120 180 agtcgacaat ctctacaaca ttgtccaagg gggaaagggg ggcgcgcgaa gttgacctgc 240 agcagaggga aaagatgctg agttttgctg caccccaact ttgcgcactt ggcgaagttg 300 acttgcaggc gagggtaaaa gatgctatgg ttggttgcgg accaagttcg ccgtgtgggt 360 catcattatc gaggtctgtg gtgacgatgg actagttttt agggattttc cggaggtgtc 420 accacggacc ccccaacttt gcgcacgggg ggtactcaat tttaagtgaa atttaagtaa aatttactta aaattcacgt ttttgggtgc gcaaagttga ggtggtgact ggtgacacga 480 aaattttaaa aaagagagat attaaaaaaa tatttatatt ttctgtgtca ccgtgtcacc 540 600 agtcaccaca gggcgtaatt ttccgggaaa ttttcagatt ttccggaaaa attgcatttt ggggtaaata gtgtccgtca gaattttgcc aaaggactgt cgtgatgtcc gagttcccaa 660 attgagggtt tttggacatc gctctgaaat cgctaacggc gtttcagatt tccgactttt 720 780 cgacatattc tgggtatttg atagctgcca aatcggtcag cgtcgaatat tccaatattt 840 cgaaggatat atgatatcgc gagatatcat tggatttcat ggggttttgt attagtaccc gctcatcgtg ggaaagtcgg gtgaatttat tcaacccgca aatctaatac aagatttgca 900 tgatgcagcg actgaccggg gtgagtgtag cagctgttct acggcttgct acgcagacct 960 1020 atcgtgttag tagttgcgac tcttggcgtg aaccggaaga ccggacctcg ctttcgacta 1080 ttcattccga tgaatatgag attgcaaggg tatcgcttcg tgcgatattt agtgatcatc agagcacgct acgacttcag tatatcctcg gatacacaga agctcgcaag cattgcatga 1140 1147 tgcaatc

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<211> 19
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<213> Perkinsus sp.

<220>

<221> misc_feature

<222> (1)..(19)

<223> Generic forward PER1 primer (5'-3') for P. marinus

<400> 19 tagtaccege teategtgg

19